REMARKS

Claims 1-22 are currently pending in this application. Claims 1, 3, 6, 7, 15, 17, 20 and 22 were rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 5,487,182 (Hansson) in view of Chinese Patent No. CN1149235 (Xixun) and U.S. Patent 5,757,929 (Wang). Claims 2 and 16 were rejected under 35 U.S.C. §103(a) as being unpatentable over Hansson in view of Xixun, and further in view of Wang and U.S. Patent Publication No. 2003/0022701 A1 (Gupta). Claims 4-5 and 18-19 were rejected under 35 U.S.C. §103(a) as being unpatentable over Hansson in view of Xixun, and further in view of Wang and U.S. Patent No. 6,078,825 (Hahn et al.). Claims 8, 9, and 21 were rejected under 35 U.S.C. §103(a) as being unpatentable over Hansson in view of Xixun, and further in view of Wang and U.S. Publication No. 2002/0016188A1 (Kashiwamura). Claims 10 and 11 were rejected under 35 U.S.C. §103(a) as being unpatentable over Hansson in view of Xixun, and further in view of Wang and U.S. Patent No. 5,640,459 (Heeden). Claims 12 and 13 were rejected under 35 U.S.C. §103(a) as being unpatentable over Hansson in view of Xixun, Wang and Heeden, and further in view of Hahn et al. Claim 14 was rejected under 35 U.S.C. §103(a) as being unpatentable over Hansson in view of Xixun, Wang and Heeden, and further in view of U.S. Publication No. 2003/0083024A1 (Richenstein et al.).

Please amend Claims 1, 15 and 22 as set forth herein. No new matter has been added.

With regard to independent Claims 1, 15, and 22, as indicated above, the Examiner asserts that Hansson, Xixun and Wang teach all the recitations of these claims. Hansson discloses a hands-free module; Xixun discloses a hands-free module; and, Wang discloses an audio interface garment and communication system for use therewith. Claims 1, 15 and 22 have been amended to recite that a distance of the constant spatial separation is calculated to at least one of reduce a reverberated sound, limit variations in a path of a preferred acoustic signal, shield the system from unwanted directional or ambient noise, reduce feedback, and reduce barrel sound. This specific calculation is not taught or disclosed by the cited references or any

combination thereof. Based on at least the foregoing, withdrawal of the rejection of Claims 1, 15, and 22 is respectfully requested.

Additionally, and again, the Examiner's rejection of dependent Claims 3 and 17 appears to be incorrect. More specifically, Claims 3 and 17 recite, "the hands-free device claimed in claim 1, further comprising an ear bud." That is, Claims 3 and 17 clearly recite that the ear bud is in addition to, and is not an example of, the external speaker of Claims 1 and 15, from which Claims 3 and 17 respectively depend. Therefore, Claims 3 and 17 recite both an ear bud ***and*** an external speaker. However, Hansson, column lines 24-26, as cited by the Examiner, clearly teaches that the external speaker can be an ear bud, not that an ear bud is provided in addition to an external speaker. Based on at least the foregoing withdrawal of the rejection of Claims 3 and 17 is respectfully requested.

The following is provided to further the understanding of the present invention. The claims of the present application relate to a hands-free device, to which an external speaker and an external microphone can be attached, a wearable speaker and a microphone can be attached, or a wearable speaker and an external microphone can be attached. Further, a howling effect and barrel sound can be reduced by fixedly attaching the speakers and the microphones at positions providing a constant spatial separation. When the hands-free device is connected to a mobile terminal, a user can selectively use the external speaker provided in this hands-free device and the speaker provided in the mobile terminal. Moreover, by providing the external speaker to the hands-free device, the user does not need to wear the ear bud for a long period of time.

When the ear bud and the external speaker are provided in the hands-free device together, the user can selectively output an audio signal to the ear bud and the external speaker. So, when only one person needs to listen to a conversation, the person can select the ear bud and hear the conversation. When more than one person wants to listen to a conversation, the user can use the external speaker.

Hansson relates to a hands-free module for a mobile telephone. The hands-free module (2) comprises a housing (11) and a cord (13) extending therefrom. Connected to the end of the cable distal from the housing are an external speaker (14) and an external microphone (15). Mounted on the module is a connector (12) which connects the module housing (11) mechanically to the telephone housing (3) and which also connects the external speaker (14) and the external microphone (15) electrically to the respective circuits if the internal loudspeaker and the internal microphone of the mobile telephone. A switch affects the choice between the external and internal microphones.

In Hansson, when the external speaker (14) is fitted in the user's ear, the cord (13) will hang down, such that the microphone (15) is located in a position in which the sound quality is fully satisfactory. In view of the fact that the external speaker (14) is located at the changeable distance from the microphone (15), Hasson does not disclose the feature of the present invention that a howling effect and barrel sound can be reduced by fixedly attaching the speakers and the microphones at positions providing a constant spatial separation.

Furthermore, Hansson does not provide the contents of the external speaker and the ear bud at the same time, but the contents of switching the internal speaker, external speaker and microphone. Therefore, Hansson does not disclose the switch to transfer the output of the audio signal to the ear bud or the external speaker as in the claims of the present application.

In Xixun, in order to overcome a problem caused by an additionally located battery to the hands-free device, an interface board is situated between the mobile telephone and the battery of the mobile terminal, and the hands-free device receives the power through the interface board comprising a microphone circuit of the hands-free device and performs the conversation by the telephone. In addition, Xixun discloses the hands-free device composed of the microphone fixed in the body by a clip and a speaker (earphone) as shown in Figs. 3 and 9. Xixun discloses the constructions that the speaker (earphone) and microphone are provided in the hands-free device and secured at a certain space, and are attached to the user by a clip.

However, the earphone of Xixun does not corresponding to the external speaker of the claims of the present application that use as a speakerphone between the external speaker and the external microphone fixedly attached at positions providing a constant spatial separation, and additionally provides the additional wearable ear bud besides the external speaker.

Wang relates to an audio interface apparatus for use within a portable communication system, which allows for hands-free operation. In Wang, the two external speakers are placed on top of the collar of the shirt, and the two microphones are placed on either side of the neck opening adjacent to the wearer's collarbone. The user is provided a 3-D audio space by these features.

As stated above, the object of Wang, in which the two external speakers and the microphones adjacently placed on either side of the collar of the shirt for providing 3-D audio environment, is different from the object of the claims of the present application, which the external speaker and the microphone are fixedly attached at positions providing a constant spatial separation to reduce the howling effect and barrel sound.

Finally, the claims of the present application disclose that the external speaker and the microphone are fixedly attached at positions providing a constant spatial separation. However, even though Hansson discloses the external speaker and microphone worn by a user, it only discloses a position providing a constant spatial separation between the at least two external speakers, and a position providing a constant spatial separation between the at least two microphones, but does not disclose the contents that the external speaker and the microphone are fixedly attached at positions providing a constant spatial separation as recited in the claims of the present application.

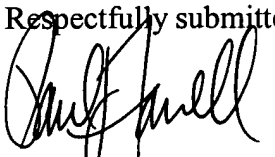
Based on at least the foregoing, withdrawal of the rejection of Claims 1-22 is respectfully requested.

Independent Claims 1, 15 and 22 are believed to be in condition for allowance. Without

conceding the patentability per se of dependent Claims 2-14 and 16-21, these are likewise believed to be allowable by virtue of their dependence on their respective amended independent claims. Accordingly, reconsideration and withdrawal of the rejections of dependent Claims 2-14 and 16-21 is respectfully requested.

Accordingly, all of the claims pending in the Application, namely, Claims 1-22, are believed to be in condition for allowance. Should the Examiner believe that a telephone conference or personal interview would facilitate resolution of any remaining matters, the Examiner may contact Applicants' attorney at the number given below.

Respectfully submitted,



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